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Corynebacterium glutamicum

Taxonomy ID: 1718

Rank: species

Genetic code: Translation table 11

Other names:

synonym: **Micrococcus glutamicus**synonym: **Corynebacterium lilium**synonym: **Brevibacterium divaricatum**synonym: **Micrococcus maripuniceus**synonym: **Brevibacterium thiogenitalis**synonym: **Brevibacterium taipei**synonym: **Brevibacterium seonmiso**synonym: **Brevibacterium saccharolyticum**synonym: **Brevibacterium glutamigenes**synonym: **Brevibacterium chang-fua**synonym: **'Brevibacterium lactofermentum'**synonym: **'Corynebacterium lactofermentum'**synonym: **Brevibacterium lactofermentum**synonym: **Corynebacterium lactofermentum**synonym: **Corynebacterium lilium Lee and Good 1963**
(Approved Lists 1980)synonym: **Brevibacterium divaricatum Su and Yamada**
1960 (Approved Lists 1980)synonym: **"Micrococcus glutamicus" Kinoshita et al.**
1958synonym: **Corynebacterium glutamicum (Kinoshita et**
al. 1958) Abe et al. 1967synonym: **Microbacterium sp. ATCC 15283**includes: **Brevibacterium sp. ATCC 19165**includes: **Arthrobacter sp. NCIB 9666**

Lineage(full)

cellular organisms; Bacteria; Actinobacteria;Actinobacteria (class); Actinobacteridae;Actinomycetales; Corynebacterineae;Corynebacteriaceae; Corynebacterium

| Entrez records | | |
|----------------|---------------|--------------|
| Database name | Subtree links | Direct links |
| Nucleotide | 6,968 | 6,950 |
| Protein | 9,971 | 3,872 |
| Structure | 4 | 4 |
| Genome | 13 | 12 |
| Popset | 1 | 1 |
| 3D Domains | 21 | 21 |
| PubMed Central | 396 | 396 |
| Gene | 3,081 | 88 |
| Taxonomy | 2 | 1 |

Comments and References:

'Corynebacterium lactofermentum' = Corynebacterium glutamicum

Amador et al. (1999) propose the transfer of "Brevibacterium lactofermentum" to "Corynebacterium lactofermentum" on the basis of studies involving "B. lactofermentum" strains ATCC 13869 and DSM 20412. However, the ATCC catalogue of strains lists ATCC 13869 as C. glutamicum. Moreover, Liebl et al. (1991) have previously transferred "B. lactofermentum" strains DSM 20412 and DSM 1412 to C. glutamicum.

Abe S et al. (1967)

Abe, S., Takayama, K., and Kinoshita, S. "Taxonomical studies on glutamic acid-producing bacteria." J. Gen. Appl. Microbiol. (1967) 13:279-301. [No PubMed record available.]



Amador E et al. (1999)

Amador, E., Castro, J.M., Correia, A., and Martin, J.F. "Structure and organization of the *rrnD* operon of 'Brevibacterium lactofermentum': analysis of the 16S rRNA gene." Microbiology (1999) 145:915-924.

Brevibacterium flavum & lactofermentum

"The Prokaryotes" (2nd edition) p. 1158 discusses the nomenclatural status of Brevibacterium flavum and Brevibacterium lactofermentum: "Their systematic classification has not been clarified but numerous data exist [citations listed below] indicating their close relatedness, if not identity, with Corynebacterium glutamicum: C. lilium, Brevibacterium flavum, B. lactofermentum, and B. divaricatum. Of the nomenclatural species B. flavum, B. lactofermentum, B. divaricatum, only B. divaricatum is included in the Approved Lists of Bacterial Names (Skerman et al., 1980), and none is a true member of the genus Brevibacterium. Therefore, data obtained with these species will be included with the discussion of the properties of Corynebacterium glutamicum." Abe et al. (1967) J. Gen. Appl. Microbiol. 13:279-301. Suzuki et al. (1981) Int. J. Syst. Bacteriol. 31:131-138. Minnikin et al. (1978) in "Coryneform bacteria" Academic Press, London.

Fukuda H (1971) (Brevibacterium thiogenitalis)

Fukuda H. "Method for producing L-glutamic acid." U.S. Pat. 3,623,951 dated Nov. 30, 1971.



Liebl W et al. (1991)

Liebl, W., Ehrmann, M., Ludwig, W., Schleifer, K.H. "Transfer of Brevibacterium divaricatum DSM 20297T, "Brevibacterium flavum" DSM 20411, "Brevibacterium lactofermentum" DSM 20412 and DSM 1412, and Corynebacterium glutamicum and their distinction by rRNA gene restriction patterns." Int. J. Syst. Bacteriol. (1991) 41:255-260.

Oberreuter H et al. (unpublished_2001)

Oberreuter, H., Charzinski, J., and Scherer, S. "Intraspecific diversity of Brevibacterium linens, Corynebacterium glutamicum and Rhodococcus erythropolis as assessed by comparative partial 16S rDNA sequence analysis and Fourier-transform infrared (FT-IR) spectroscopy." Unpublished (as of 23 February 2001)

Okumura S et al. (1962) (Brevibacterium saccharolyticum)

Okumura, S. et al. "Studies on the L-glutamic acid fermentation. Part I. The new bacteria of the genus Brevibacterium isolated from the nature to produce L-glutamic acid." J. Agric. Chem. Soc. Jpn. (1962) 36:141-159. [No PubMed record available.]

Skerman VBD et al. (1980) (Corynebacterium glutamicum)

Skerman, V.B.D., McGowan, V., and Sneath, P.H.A. (editors): "Approved lists of bacterial names." Int. J. Syst. Bacteriol. (1980) 30:225-420. [No PubMed record available.]

Su Y & Yamada K (1960)

Su, Y., and Yamada, K.: Bull. Agric. Chem. Soc. Japan (1960) 24:69-74. [No PubMed record available.]

Zobell CE & Upham HC (1944) (Micrococcus maripuniceus)

Zobell, C.E., and Upham, H.C. "A list of marine bacteria including descriptions of sixty new species." Bull. Scripps Inst. Oceanogr. (1944) 5: 239-292. [No PubMed record available.]

External Information Resources (NCBI LinkOut)

| LinkOut | Subject | LinkOut Provider |
|--|-----------------------|---|
| bnu | taxonomy/phylogenetic | Bacterial Nomenclature Up-to-date |
| R-plasmid pAG1 | DNA/protein sequence | NCBI Plasmid Genomes |
| native 4.45 kb plasmid | DNA/protein sequence | |
| plasmid pAG3 | DNA/protein sequence | |
| plasmid pAM330 | DNA/protein sequence | |
| plasmid pCG2 | DNA/protein sequence | |
| plasmid pGA2 | DNA/protein sequence | |
| plasmid pTET3 | DNA/protein sequence | |
| plasmid pXZ10142 | DNA/protein sequence | |
| plasmid pXZ10145.1 | DNA/protein sequence | |

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